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Price Analysis on Commercial Item Purchases Within the Department of the Navy

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Price Analysis on Commercial Item Purchases Within the Department of the Navy

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Abstract

The objective of this project is to research current pricing memorandums and determine whether the use of price analysis techniques and pricing memorandums can improve acquisition-pricing outcomes. The purpose of the research is to explore the efficacy of the government's current documentation of price analysis information. The intent is to diagnose the price analysis techniques that are being utilized and documented in the contracting file, and to explore potential improvements. This analysis is based on a review of a sample size of contract files and a personnel survey at a Department of Defense contracting office.

Introduction

The Federal Acquisition Streamlining Act of 1994 significantly changed government procurement practices. This act expanded the definitions of a commercial item and a non-developmental item, which in turn allowed vendors to avoid submission of certified cost and pricing data for commercial items in response to government contracting solicitations (Rumbaugh, 2010). One impact of this change is that contracting professionals must now look at market forces to establish price reasonableness for commercial item procurements. The importance of market research and price analysis methods has increased because of this change (Gera & Maddox, 2013). Since this change was made, the Department of Defense Inspector General (DoDIG) has issued multiple reports that are critical of contracting officers. Contracting officers have consistently failed to adequately justify price reasonableness, or they have failed to provide documentation that explains their price reasonableness determination. The purpose of this research is to explore which price analysis techniques are being utilized and documented in the contracting file, and to explore potential improvements within Department of Defense (DoD) Navy contracts. This project is a continuation of research accomplished on DoD contracts (Redfern, Nelson, & White, 2013; Gera & Maddox, 2013).



The objective of this project is to determine whether better use of price analysis techniques can improve DoD contract pricing. The intent is to diagnose both strengths and weaknesses and to explore potential improvements utilizing a contract file review and a personnel survey.

Many government audit reports since 2001 have documented problems in determining fair and reasonable prices within the Department of Defense (DoD) and federal contracting generally.

In July of 2014, another DoDIG report to the Director Defense Logistics Agency reviewed the prices for a sole-source commercial purchase. The DoDIG found that the contracting officer did not sufficiently determine whether prices were fair and reasonable for sole-sources spare parts negotiated for helicopters. The report found that the contracting officer used a previous purchase price without determining the reasonableness of that previous price and did not sufficiently review the contractor's sales data in a noncompetitive environment. The report stated that the DLA potentially overpaid \$9 million for this contract and may overpay as much as \$2.6 million on future orders under this contract (DoDIG, 2014). The audit recommended that the DLA establish a quality assurance process that reviews whether contracting officers verify and document that sufficient analysis was performed to determine if the previous price was justified in accordance with DFARS PGI 215.403-3(4). The report was also directed to the Director of Defense Pricing. The report recommended that the Director of Defense Pricing issue guidance to establish a percentage of commercial sales that is sufficient to determine fair and reasonable prices when items are being acquired on a sole-source contract and market-based prices are used. The guidance should also require contracting officers to request information "other than certified cost or pricing data" to include cost data if sales data are not sufficient (DoDIG, 2014).

Gera and Maddox made similar recommendations in their October 2013 report. They suggested that the DoD implement oversight procedures to ensure the price analysis is documented and reviewed for completeness and adequacy and that local activities include internal controls to make sure price analysis is being done properly. In addition, they both forecasted that when price analysis is done poorly, it could cost us thousands, if not millions, in higher prices, such as the \$9 million overpay found by the DoDIG in 2014 (Gera & Maddox, 2013, p. 51).

Previous research has been conducted on this subject outside of government audit reports. The findings from the research reports are consistent with the findings in government audit reports and do not appear to be surprising revelations.

As briefly discussed, there are multiple findings of deficiencies in each of the inspection reports; however, there were five deficiencies that repeated themselves more than others. First, the lack of proper price reasonableness determination documentation in the contracting file was mentioned in six separate inspection reports. Second, the failure to properly challenge commercial item designations, and third, the failure to properly verify previous prices paid as fair and reasonable, were both mentioned in four different reports. Fourth, the audit reports suggest that the wording of cost or pricing data regulations for commercial items has led contracting officers to hesitate to ask, or fail to ask, for certified cost and pricing data. Fifth, high workload and the amount of qualified contracting personnel were mentioned in four different reports.

In addition, the current authors highlighted three of the previously identified deficiencies (in Gera & Maddox, 2013). We then found that documentation of price reasonableness, and the failure to verify previous prices paid, were both apparent during the review of contract files during the research. The "personnel survey" results utilized during



the research identified that supervisors believed that manpower shortages were a reason for the failure to properly establish and document price reasonableness. Therefore, the recent research demonstrates that there is a consistency between the research findings and the inspection reports.

The existing literature provides evidence that this problem of conducting effective price reasonableness determinations will not be solved in the short term. Further research on these concerns is warranted.

Methodology

Contract File Review

We utilized a checklist for the contract file review. This checklist identified the price of each contract, commercial item designation, supply or service, estimates, competition, procedures, documentation present, and the price analysis techniques used. The parameters for file review were an acquisition price greater than \$150,000 and under two years old. The DoD contracting office pulled a listing of contracts that met these parameters. Based on the contract list, we pulled randomly-selected files for review. The authors pulled a random sample of 30 contracts to provide the required data, and later we pulled another 20 contracts for a total of 50 contracts to be reviewed. The contract file sample contained 50 contract files valued at \$72.2 million. They were a mix of supplies and services contracts. There were 19 contracts for the purchase of supplies valued at \$23 million, and 31 contracts for services valued at \$49.2 million. In addition, 41 of the 50 contracts (82%) in the sample were classified as commercial item contracts, and nine were classified as non-commercial; 14 contracts of the 41 (34%) were missing a statement in the file documenting that the item met the commercial item definition.

Personnel Survey

We utilized a personnel survey to anonymously determine the skill level and knowledge for conducting price analysis and price reasonableness determinations. Contracting personnel possess different skills and knowledge depending on years of experience, certification level, and the types of procurements they are typically assigned. The survey was designed for the participants to assess their knowledge base and provide feedback on how often they utilize various pricing techniques. The personnel survey was limited to the contracting personnel who worked in the same office that the contracting files were reviewed in order to compare results of the personnel survey to the contract file review. There were 25 surveys completed out of a possible 50 personnel who met the qualifications described in Section III: Price Reasonableness Determination. One survey respondent completed the demographic information only, and 24 survey respondents completed the entire survey. There were two supervisors that completed the supervisor section of the survey. The research was based on 25 survey respondents for the demographic information, and 24 respondents for the specific activity and knowledge-base questions. The 25 survey respondents who completed the demographic section of the survey indicated that 18 people (72%) had greater than five years of acquisition and contracting experience, six people (24%) had three to five years of experience, and one person (4%) had less than three years of experience. None responded that they had less than one year of experience.

Comparisons Between the Contract File Data and Contract Survey Data

This section makes comparisons of the file data and the personnel survey data that were directly related. Comparisons are necessary in order to relate the two data sets to each other in order to draw conclusions and see whether the perceptions of the operators match with the reality we see in the random files.



There was some discussion of competition in the pricing memorandums in 23 of the 50 contract files sampled. Pricing memorandums also indicated that one or more of the FAR 15 price analysis techniques were utilized on 48 of the 50 (96%) of the contract actions sampled. Of the 48 pricing memorandums, only 27 (56%), were justified by our examination. When the 24 survey respondents were asked, "Do you execute a pricing memorandum (or something similar) in the corresponding contract file which explains how you determined the offered and awarded price (or modified price) as fair and reasonable?", 21 people (88%) answered that they frequently executed a pricing memorandum, 19 people (79%) responded that a pricing memorandum was critical, and 19 people (79%) responded that they had advanced or expert proficiency in completing pricing memorandums. The use of quantitative techniques (price indexing) was found only twice in the sample; however, a majority indicated usage of quantitative techniques when determining price reasonableness. Supervisors were split on the skill level of their employees in this matter.

There were 21 of 50 contract file actions that indicated that an IGCE was utilized for establishing price reasonableness; only five of those were substantiated by catalogs, contact with a vendor, or by a government technical report. When the 24 survey respondents were asked, "Does the customer provide an IGCE?", seven people (29%) indicated that the requiring activity seldom/never provided an IGCE; seven people (29%) indicated that the requiring activity frequently provided an IGCE, and nine people (38%) indicated the customer always provided an IGCE.

When the 24 survey respondents were asked, "If the customer provides an IGCE, is it substantiated?", 13 people (54%) indicated that it was seldom or never substantiated. When the 24 survey respondents were asked about their ability to determine whether an IGCE was reliable, 16 people (67%) of the respondents indicated yes. When the 24 survey respondents were asked whether IGCEs were used to determine price reasonableness for services, 11 people (46%) indicated yes.

A majority of contract files (25 of 32) in the sample contained market research information as required. The 18 contract actions were task/delivery orders where market research had occurred on the base contract and therefore were not counted. A majority of the contracting personnel surveyed indicated that market research was frequent (18 people), critical (18 people), and that contracting personnel were proficient at conducting market research (19 people). In a majority of the cases, contracting personnel indicated that both the customer and the contract specialist both provided market research information; however, 13 people (54%) questioned the reliability of customer-provided information. In 12 of the 25 research reports in the contract files pricing information in the market research was used for a price comparison.

Research Questions and Findings

We present answers to the research questions that drove this research by detailing applicable findings questions mentioned with our analysis of such. We follow these answers with our recommendations to the questions. In addition, the last two sections of this summary chapter include a discussion of the significance of the data we sampled for this report in comparison to what we found in our 2013 report, plus our suggestions for future research.

1. Do pricing memorandums deviate from Federal Acquisition Regulation (FAR) , Defense Federal Acquisition Regulation Supplement (DFARS) requirements, and DFARS Procedures, Guidance and Information (PGI) procedures? There are multiple findings regarding this question. Rather than grouping our findings into one answer, we have addressed them individually (see Table 1).



Table 1. Summary of Inadequately Justified Price Analysis Documentation in the Files by FAR Price Analysis Technique

FAR Price Analysis Techniques	Total	Supplies	Services
Inadequate price competition	10 of 23	3	7
Acceptance of prior prices without establishing their reasonableness	7 of 12	3	4
Incomplete statements based on references to market research	0 of 12	0	0
Incomplete references to current price list, catalog, or advertisement	1 of 6	1	0
Incomplete comparison with IGCE or use of unreliable IGCEs	16 of 21	1	15
Offeror did not provide data that was appropriate	0 of 1	0	0
No documentation in file for price reasonableness justification	2 of 50	2	0
Totals of inadequate price analysis documentation for price reasonableness justification	36		

1a. Inadequate Documentation Finding: A number of contract files that we reviewed were unable to demonstrate that prices paid were reasonable due to inadequate FAR price analysis methods, as depicted in Table 1: Summary of Inadequately Justified Price Analysis Documentation in the Files by FAR Price Analysis Technique.

1a. Analysis: From this data, we determined that the personnel involved in performing these contract actions did not include sufficient documentation to support the price analysis method used as required by FAR and DFARS. Considering the number of inadequate price analysis found in our sampled memos, it appears that contracting personnel are not familiar with how to appropriately perform and document price analysis. In particular, two types of price analysis, prior prices and IGCEs were performed and documented incorrectly more than 50% of the time. See details specific to prior price and IGCEs as follows under answers for 1c and 3b.

1a. Recommendation: A lack of supporting documentation could be easily corrected upon discovery by internal audits and returning the contract actions to have the applicable contracting personnel include the necessary documentation in the file. Additionally, reinforcement by internal procurement leadership in the importance of file documentation and including more hands on type training to make sure personnel understand what is and what is not proper supporting documentation.

We came across impressive recommendations from the contracting personnel who completed the surveys. When asked for suggestions on improving pricing documentation within the agency, respondents made the following comments:

- “It would be a good idea to review the FAR definitions of what constitutes an acceptable fair and reasonable determination. Even though training has been conducted on this topic, this is the sort of thing that should be reviewed periodically.”



- “A peer review could definitely be useful.”
- “(Perform) in-house quality assurance surveillance assessment (QASA) reviews (on the contract files) and provide training from the findings.”

When asked to make suggestions on DAU pricing courses, respondents replied with the following that support improved documentation:

- “Having a ‘real’ contract to analyze would definitely improve the courses.”
- “More on-site instruction. Not enough emphasis on sole-source/single source price analysis of commercial items. Most of the courses revolve around cost analysis—which is a small percentage of our buys. By the time we get an acquisition that requires cost analysis we’ve forgotten the course material (since most of the classes are taken within our 1st 2 years of employment).”
- “Often the applicability and level of documentation is missed.”

1b. Contract Review Board Checklist Finding: The contracting office for the DoD activity reviewed includes a local contract review board (CRB) checklist that also served as a business clearance memorandum (BCM) for significant actions as designated by the senior procurement officer. This checklist was extensive, including a section on pricing, and provided contracting personnel a means to check off any FAR/DFARS requirements, pre-award administration policies, procedures, and techniques that were utilized. The use of this checklist as a BCM makes it difficult for contracting personnel *to fail to at least identify the type of price analysis utilized in an award decision.*

1b. Analysis: We agree that the type of price analysis documented was indeed identified throughout the file review. It was the lack of poor documentation in the files that influenced our decisions to rate a pricing memo as justifiable or not. However, one would think that if the CRB were looking in depth into the documentation behind the identification of price analysis conducted, they would unearth some of the very same findings we made. Overall, we believe this checklist could be of use agency wide with the precaution of a deeper review of the documentation identified in the checklist.

1b. Recommendation: Well written checklist are indeed helpful to both contracting personnel and for file reviewers. In particular, we found that file reviewers use the checklist without verifying the applicable documentation. Reviewers should build their own checklist based on the actual documentation they find and review instead of just using the existing checklist in the file for their review.

1c. Comparison of Current Offered Pricing Findings: Eleven pricing memorandums included some comparisons of current proposed (offered) prices when the lowest price was smaller than 80% of the next lowest price. For example, if the prices are \$10, \$50, and \$55, respectively, then lower than 80% would be anything lower than 80% x \$50, which equals \$40. So the lower quote of \$10 would be considered smaller.

In one file a price from a technically unacceptable offeror was still used to make a price comparison. This inappropriate comparison raises the issue that although competition is present and sought, is there actual price competition?

1c. Analysis: Proposed prices that are not within 80% of the next lowest price raise questions to the reliability of the proposed prices, and the existence of actual price competition. This could indicate that there is a mistake in offered price, a misunderstanding of the contract requirements, etc. In few cases there was documentation that included some determination of why there was such a large gap between the lowest price and next valid price or a price verification request by the CO to the lowest offeror.



According to the FAR Part 6, the award of a contract to a supplier based on lowest evaluated price alone can be false economy if there is subsequent default, late deliveries, or other unsatisfactory performance resulting in additional contractual or administrative costs. While it is important that government purchases be made at the lowest price, this does not require an award to a supplier solely because that supplier submits the lowest offer.

1c. Recommendation: A contractor who cannot perform is never a good deal at any price. More affirmative action needs to be taken by contracting personnel to affirm an offeror's ability to perform at a low price which is considerably lower than the next offered price to ensure that the low price is fair and reasonable.

1d. Comparison of Proposed Price to Previous Price (Historical) Findings: Comparison of proposed prices to previous (historical) prices paid was utilized on 12 contract actions. In the seven instances that had an invalid previous price documented in the file, there was a previous price that could not be validated for one or more of the reasons displayed in Figure 1. Invalid previous (historical) prices were found because of one or more of the following reasons: time lapse, changes to terms and conditions, or uncertain reasonableness of the prior price.

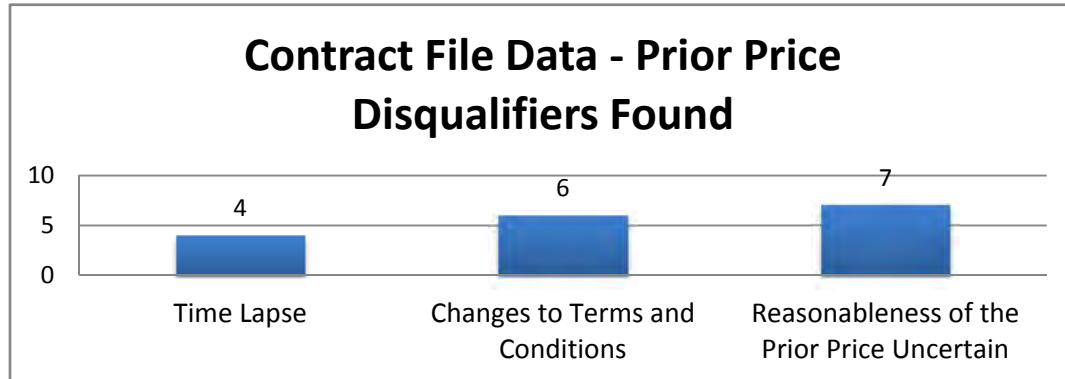


Figure 1. Contract File Data—Prior Price Disqualifiers

1d. Analysis: If invalid previous prices are utilized, then price reasonableness has not actually been determined. For example, it would not be sufficient to use price(s) from a database produced by another contract specialist without understanding the type of analysis that was performed to determine the price. DoD-strengthened guidance on this subject is in PGI 215.403-3(4).

Since previous price comparison is one of the two preferred price analysis techniques, it is used quite often by contracting personnel in determining price reasonableness. This method is effective provided the validity of the comparison (similar items, categories, quantities, quality, qualifications, and/or circumstances) and the reasonableness of the previous price(s) can be established.

In this sample, more than 50% of the previous price comparisons made were invalid since the previous price was not verified. This illustrates why the authors determined that the contracts sampled do deviate from FAR/DFARS/PGI requirements and procedures. Further, If contracting personnel are not diligent in validating previous prices prior to using them for current pricing actions, then unreasonable prices can continuously perpetuate themselves into future contracting actions.

1d. Recommendation: Contracting personnel must first validate previous prices before using them in a price reasonableness determination and then adjust those prices to

make them comparable with the current offered price. If the previous price is not found to be valid, the contract specialist or contracting officer must find another method to determine price reasonableness. In-house reinforcement of how a previous price is verified is needed in this contracting activity. The DAU must include more classroom focus on this subject. The authors plan to write an article to be included in the *National Contract Management Association Journal* to assist in spreading the importance of performing this type of price analysis correctly.

Also, consider the following response to the DoDIG by the Director Defense Pricing for such situations. He suggested that contracting personnel use the support of the Pricing Centers of Excellence and the Contract Business Analysis Repository Information (CBAR) database. He stated that both methods are designed to supplement and improve the pricing skills of the acquisition workforce (DoDIG, 2014).

The authors agree that the Defense Director recommendation to use the CBAR database is useful, but its focus is on contract pricing actions exceeding \$25 million. Also, the CBAR database does not include contractor sales data or validity of previous prices, which is what the DoDIG report number 2014-088 referred to.

2. Do pricing memorandums document the type of price analysis used in pricing formulation? What price analysis methods are being used?

Findings: All of the pricing memos documented some type of price analysis used in determining that the price was reasonable. The research findings show that 23 of the files used current competitive prices as a price analysis method (which is 46% of the total files). Comparison with the IGCE was documented in 21 pricing memos out of the 50 files, namely, 42% of the files. Previous prices (historical) documentation and comparison through market research were present in 12 of the 50 files, totaling 48% of the files as seen in Figure 2.

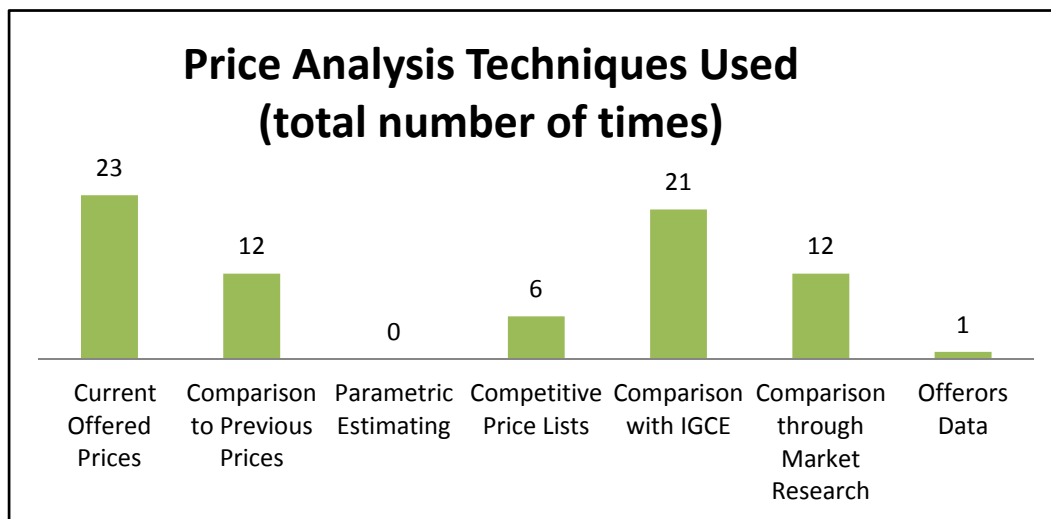


Figure 2. Contract File Data—Price Analysis Techniques Used

Analysis: Current offered prices led the type of price analysis techniques used; IGCEs came closely behind, according to the contract files sampled. It is noteworthy that the contract files documented that adequate price competition through current offered prices is prevalent in most of the reviewed files. Normally, adequate price competition establishes price reasonableness and no other price analysis techniques are needed. IGCEs are not as

reliable as current offered prices so their usefulness is questioned. Further price analysis techniques should supplement an IGCE.

The application of price analysis techniques is notable. Contracting personnel at this office recognize the importance of price analysis in determining price reasonableness. However, as discussed in Question 1a (Inadequate Documentation), contracting personnel did not include sufficient documentation to support the price analysis method used as required by FAR and DFARS. Without the proper supporting documentation, the value of the techniques used are questionable.

Recommendation: Clearly the routine use of price analysis techniques is certainly present in pricing memos so recommendation is required. However, the recommended solutions for inadequate documentaion under 1a apply at this point.

3. Do pricing memorandums refer to market research information or IGCE information? The findings regarding market research and IGCEs are not grouped together and we have addressed them individually, as follows:

3a. Market Research Findings: There were 12 contract pricing memorandums reviewed in the contract files that did utilize market research reports to establish price reasonableness, and a majority of the files in the sample contained market research reports; namely, of the 27 market research reports, 18 (67%) of those contracts addressed the type of pricing data collected, as shown in Figure 3. There were nine contracts in the sample that did not address the type of pricing data collected in the market research report, and there were five contracts in the sample that did not have a market research report that should have. In seven files, the IGCE and market research report were combined into one document.

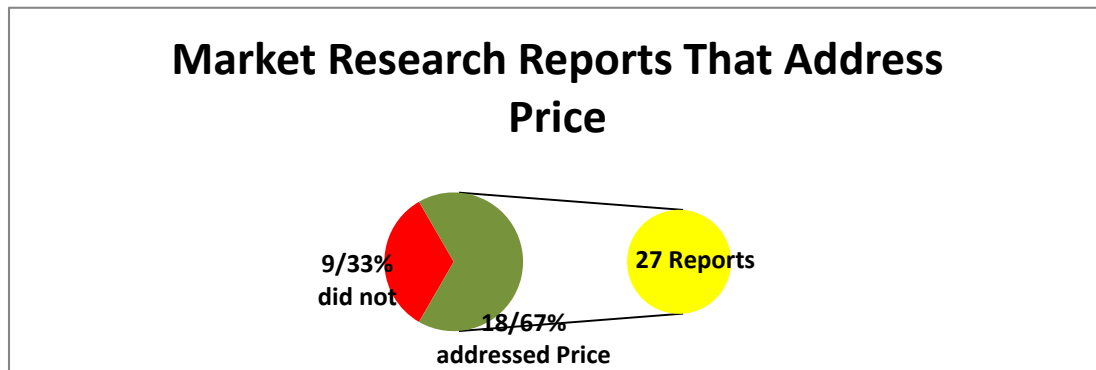


Figure 3. Contract File Data—Market Research Reports That Address Price

When the 24 survey respondents were asked whether the customer provided market research information, 21 people (88%) responded that both the requiring activity and the contracting activity provided market research information. When asked about the adequacy of the market research information, 13 people (54%) indicated the customer seldom provided adequate market research information, nine people (38%) indicated that the customer frequently provided adequate market research information, and 8% of the respondents indicated the customer never provided adequate market research information

3a. Analysis: The authors found that market research is included in most of the files we reviewed. Market research does improve the buyers' understanding of pricing in the marketplace. The authors didn't look in depth at the quality of the market research reports but did note that price was addressed in most of the market research reports examined. So

the authors conclude that market research reports, if reviewed, would have improved the buyers' understanding of pricing in the marketplace. Redfern et al. (2013) found that contracting personnel did not always believe customer-provided information to be adequate; our research draws the same conclusion. According to the contracting personnel survey, 13 people (54%) indicated the customer seldom provided adequate market research information. Also, the authors found that reports that combined an IGCE with market research were confusing as to whether market research was done to support the IGCE or as full market research reports.

3a. Recommendation: Reliable market research from their customers/requirement activities will improve the buyers' understanding of the marketplace. It will also give the buyer an opportunity to make better decisions when it comes to prices offered. The contracting and requiring activities should review agency guidance on market research and consider combined in house training. This will give both parties responsible for market research an opportunity to express their issues with conducting market research, documenting market research, and applying the information in the the market research report to inform pricing determinations.

Gera and Maddox (2013) recommended that FAR Part 10 require that pricing be discussed in the market research reports (p. 54). The FAR identifies market research as a method for determining price reasonableness, but does not require that pricing be documented in the report. The authors still have the same opinion and would like to include a more extensive review of market research reports in the files.

For future research, the authors should review the quality of the market research reports. Knowledge of marketplace suppliers and prices can be critical to the government's ability to negotiate a reasonable price. Poorly done market research could lessen an activity's ability to achieve fair and reasonable prices. The authors would focus our research on how market research was conducted, and if it informed and influenced the contracting officer's analysis of price reasonableness.

3b. IGCE Findings: The IGCE has two roles: one, as price analysis technique per FAR Parts 13 and 15, and two, IGCEs also support what the customer and contracting offices believes is the "should price" and should be completed before receipt of price proposals. In answering this question, the authors are only examining the IGCE's role as a price analysis technique.

Next to current offered prices, IGCEs were heavily used as the basis for price reasonableness in 21 of the 50 files, essentially 42% of the contract actions reviewed. However, the authors found that only five of the 21 IGCEs used for determining price reasonableness could be substantiated and determined reliable. When the 24 survey respondents were asked, "If the customer provides an IGCE, is it substantiated?", 13 people (54%) indicated that it was seldom or never substantiated. When the 24 survey respondents were asked about their ability to determine whether an IGCE was reliable, 16 people (67%) indicated yes. When the 24 survey respondents were asked whether IGCEs were used to determine price reasonableness for services, 11 people (46%) indicated yes.

Gera and Maddox (2013) recommended that agencies increase the importance of IGCEs. The contracting office we reviewed provided an IGCE template to the acquisition customer for assistance in filling out IGCEs since they are required to be completed by the acquisition customer. The IGCEs were required to be completed before receipt of the contractor's price proposal. No further guidance on how complete the template was available. An IGCE was required on each purchase, but the template standard varied depending on whether the purchase was for supplies or services. A vendor quote would



satisfy the requirement for a commercial item supply purchase, but a more substantiated IGCE was required for services or non-commercial procurements.

The FAR lists an IGCE as a price analysis technique in both Parts 13 and 15, but it does not elaborate on what substantiates an IGCE. Best practices in pricing handbooks require that the source and methodology used in developing IGCEs be documented. More detailed information is found in *CPRG Volume 1*, paragraph 6.1.5, on techniques to properly validate and use an IGCE (Office of the Deputy Director of Defense, 2012).

3b. Analysis of IGCEs: The use of an IGCE to determine price reasonableness is frequent, and the reliability of IGCEs is not consistent. The contract personnel survey findings noted that more than 54% believed that IGCE are never substantiated by the customer but that 67% personally knew how to determine the reliability of an IGCE. Our actual contract file review findings raise questions regarding what the personnel in this survey considered to be a reliable IGCE. In contrast, only 23% of the IGCEs used in determining a fair and reasonable price could be substantiated as reliable. This real finding in the contract files contrasts with what contracting personnel perception that they know what is a reliable IGCE is. The fact that more than 54% questioned the reliability of a customer's IGCE is discouraging because the customer's IGCEs are still being used for determining price reasonableness.

We found that IGCEs were used as a primary price analysis comparison in 42% of the contract files we reviewed. In conclusion, this contracting office's IGCEs basically are not effective in determining price reasonableness. However, the contracting personnel are still using the IGCE on a regular basis to determine a price is fair and reasonable though the contracting personnel know they are most likely not reliable. The fact that 77% of the IGCEs the authors examined are unreliable and, conversely, that 64% of the personnel think they know what a reliable IGCE is, indicates that the IGCEs in this contracting office's files are truly questionable.

3b. Recommendations: The reliability of the IGCE should be considered when determining the usefulness of this technique. The authors recommend that contracting personnel become acquainted with what is a reliable IGCE by reviewing *CPRG Volume 1*, paragraph 6.1.5, on techniques to properly validate and use of an IGCE. DAU needs to add focus on the importance of the IGCE what makes it reliable in their pricing courses.

In addition, the authors still find last year's recommendation in their 2013 report also applicable. The authors propose that government activities increase the importance of IGCEs and consider the following steps to make IGCEs more reliable for use in conducting price analysis: (1) the contract specialists should be presented with good training on what good IGCEs are and what to document, (2) the individuals that develop IGCEs need to know how to do it (there should be more specific training in this area), (3) an online check system should be put in place where government IGCEs are accepted if and only if the substantiation is provided, and (4) there should be consideration to acknowledge IGCEs in the FAR/DFAR/PGI with more importance than it currently is given. The policy-makers need to appreciate how much IGCEs are being used and how more guidance will assist s in determining what the contract specialist "should pay" and hopefully giving the contract specialists the ammunition to negotiate better prices (Gera & Maddox, 2013, p. 62).

4. If deviations in pricing memorandums exist, do they differ by the same characteristics and/or by unsimilar characteristics?



In 46% of the files, deviations in pricing memorandums do exist as depicted as inadequate justification in Table 2. Some deviations found in the files reviewed were consistently the same and others uniquely not similar to others.

Table 2. Contract File Data—Adequate vs. Inadequate Justification for Price Reasonableness

	Adequate Justification	Inadequate Justification	Documentation not in file	Total	Percent Justified
Contract Files	27	21	2	50	54%
Services	15	16	0	31	48%
Supplies	12	5	2	19	63%

A majority of the pricing memorandums do deviate by two consistent characteristics: the lack of supporting documentation to justify the technique utilized to establish price reasonableness, and the use of unsupported IGCEs. See findings that support inadequate documentation under the answers to 1a and findings behind the unsupported IGCEs in the answers to Question 3b.

The pricing memorandums in the sample reviewed established that the contract specialist determined price reasonableness as well as listed the technique utilized; however, substantiating documentation (e.g., calculation sheets, reference materials such as catalog data found on line, copy of previous price documentation, and methodology) are not always included, supporting the source of their recommendations. A very small percentage of the IGCEs in the contract files were reliable enough to support that the offered price being analyzed was indeed reasonable. Contracting personnel listed the IGCE as justifying the price of 17 service and four supporting contracts. Only five of the 21 were judged as reliable and therefore substantiated by the authors.

Some of the files reviewed contained unique deviations in their pricing memos (Maddox, Fox, & Gera, 2014).

5. What are the most predominant price analysis techniques exercised in purchasing supplies versus services?

This data is listed in Table 3, and offers insight into the predominant type of price analysis techniques exercised in purchasing supplies versus services.



Table 3. Contract File Data—Answers to the Question “What Was the Documented Justification for Price Reasonableness?”

<u>Price Justification in Pricing Memos</u>	<u>Total number</u>	<u>Supply</u>	<u>Services</u>
Comparison to current offered price?	23	10	13
Comparison to previous prices paid?	12	4	8
Parametric estimating?	0	0	0
Competitive published price lists?	6	5	1
Comparison of proposed prices with independent government cost estimates?	21	4	17
Comparison of proposed prices obtained through market research?	12	5	7
Analysis of sales data provided by the offeror?	1	1	0

Findings: According to the contract file data sampled, contracts for both supplies and service made use of comparisons to current offered prices and market research prices equally as price analysis techniques.

Services are far more dependent on IGCEs than supplies. We found that 17 of 31, or 55%, of service contracts tapped IGCEs as a primary price analysis technique. Only four of 19 supplies, 21%, benefitted from IGCEs.

Supplies take advantage of competitive price lists in justifying price reasonableness much more often than services. Five out of six employments of competitive price lists as a price analysis technique, represents a rate of 83% utilization for supplies versus services.

Analysis: The authors don’t know the why part of the answer, but can infer that it is much easier to find prices in the marketplace for supplies than for services, thus the use of competitive price lists. For services, there is more dependence on IGCEs to make price comparisons, since IGCEs generally disclose an estimate of labor hours by the type of effort required. IGCEs are more effective for justifying the price of services than other price analysis techniques outside of two or more current offered prices.

Recommendations: This is the same recommendation as last year’s report by Gera and Maddox (2013):

Buying services is different than buying supplies; that also means that they are different when it comes to pricing. A step should be added to the services acquisition guidebook that focuses just on the pricing of services. Possibly the FAR, DFARS, and PGI need to reframe price analysis methods that are more useful in purchasing services, as opposed to current references to supplies only.

One of the authors discussed the uniqueness of pricing services with Frank Kendall, U.S. defense undersecretary for acquisition, technology and logistics at 2014’s AFCEA symposium. He agreed and encourage the author to explore that concern. Unfortunately she is no longer instructing in contract pricing. She is now holding employment that little allows



this type of activity nor the access to students and peers in generating new ideas. A review of how the commercial world prices services would have been the place to start.

IGCEs play such an important part in pricing services as a “should price” before the request for vendor prices and as a tool to determine price reasonableness after a price is proposed. The generation of local guidance and policies and actual instruction to educate the customer/requirements personnel could bring true and valuable savings.

6. Why do pricing memorandums lack sufficient justifications and supporting information? What challenges are present in executing price analysis?

Findings: When the 24 survey respondents were asked what the challenges in executing price analysis, determining price reasonableness, and documenting were, four people (17%) indicated a lack of knowledge in conducting price reasonableness determinations, nine people (38%) indicated the amount of time to complete price reasonableness determinations, four people (17%) gave other reasons as challenges, and seven people (29%) did not answer the question (see Figure 4).

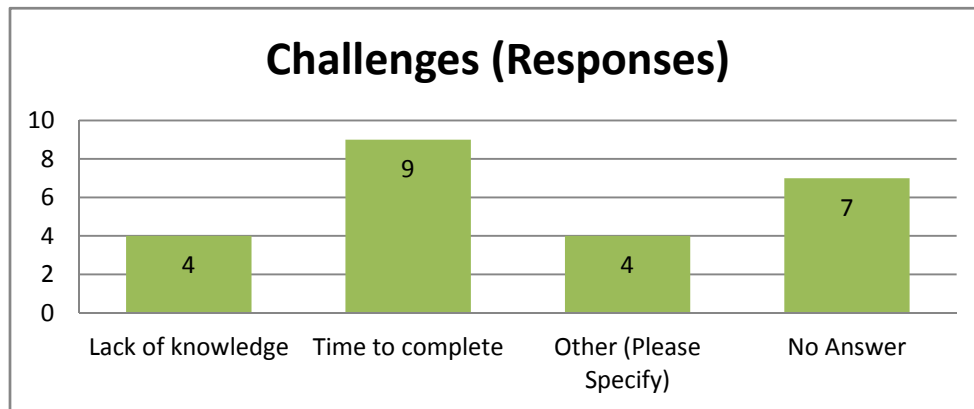


Figure 4. Answers to the Question “What Is Your Challenge in Executing Price Analysis, Determining Price Reasonableness, and Documenting?”

The respondents who indicated other reasons gave the following inputs:

- “Lack of competition and sufficient IGCEs can be somewhat challenging.”
- “Sole-source acquisitions—finding similar products in the market to compare prices with.”
- “Conducting market research when the item is sole source/single source and no other vendors can provide price quote.”
- “Inadequate product description from the requiring activity.”
- “Lack of similar offerings; sole source prevents apples-to-apples price analysis with other offerings.”

Analysis: Redfern et al. (2013) found that pricing memorandums lack justifications and supporting information because of a lack of time to complete adequate price reasonableness determinations. Our research draws the same conclusion. A majority of the survey respondents who answered this question also gave specific reasons as to why time was a challenge. Each comment can be linked to specific time-related measures, such as procurement action lead times (PALT) or other time-consuming activities directly linked to the procurement.

The personnel survey results indicates that the contracting personnel in the surveyed office were well qualified, with a majority of personnel having more than five years of experience. Eighteen of 24 surveyed had both Level I and II pricing course, namely 75%. However, four personnel had no Level I pricing training. Price Analysis is only taught in Level I courses.

The survey did not ask respondents to quantify manpower shortages, but at least one supervisor did believe manpower shortages were a problem for the agency. The supervisor's opinion that manpower shortages are a problem is consistent with the findings of several DoDIG reports that found high workloads and shortages of qualified personnel lead to the government paying more than what is fair and reasonable.

Another supervisor identified the skill level of the employees as the organization's biggest challenge. Considering the poor quality of price analysis (unjustified) documentation found in 23 of 50, 46% of files reviewed, the authors agree and conclude that employees skill levels are not up to standard.

Overall, the use of price analysis techniques are common, but there are serious deficiencies when it comes to actually using the techniques correctly and including proper supporting documentation. Poor documentation to support the price reasonableness determination was the biggest weakness. When competition by itself does not establish price reasonableness, the most utilized techniques for determining price reasonableness within this office were comparison through market research, comparison to previous pricing, and comparison to IGCEs. The use of indexing, regression, and parametric analysis is uncommon for commercial item purchases; however, contracting professionals in this contracting office are aware of the techniques and are trained to use them. Consistent with DoDIG report findings, this contracting activity is concerned with high workloads and shortages of personnel. Survey results and comments show that contracting personnel are spending time either validating customer requirements or researching requirements on their own to validate inadequate customer provided market research information and customer-provided IGCE documentation.

The contracting office that provided the contract file data and personnel survey data is concerned with pricing inaccuracies and seeks to constantly improve its adherence to policy with extensive internal reviews. However, the number of unjustified pricing memos we reviewed is worrisome. The authors found that over \$3 million in supplies and \$39 million in services was not adequately justified for price reasonableness.

Recommendation: This activity needs to take a hard look at what is disabling the personnel in their activity from performing price analysis properly, such as

- Determine if their current assessment methods like the contract review board and quality assurance assessment team consistently follow price reasonableness standards in accordance with the FAR/DFARS.
- Train and retrain contracting personnel on price analysis techniques in determining price reasonableness along with what is proper support documentation for pricing.
- Eliminate or reduce the challenges that contracting personnel have in executing proper price reasonableness. For example, guidance is needed on "conducting market research when the item is sole source/single source and no other vendors can provide price quote."
- Add adequate guidance on the preparation of IGCEs and market research reports by customers (requiring activities).



Comparison to Past Research

Contract File Data

It would be easy to just go table by table and list the differences and the similarities, but we want to focus on the real reason why we are doing this research and what we have learned so far. Basically, the authors wanted to know if price analysis and the associated price analysis techniques are being exercised and conducted correctly in determining price reasonableness. The authors believe that when price analysis is not conducted properly, there is reason to believe the prices offered and paid are unreasonable.

Our data in this report came from a different agency. Dollar values were higher (nothing below \$150,000), and there appeared to be much more oversight of buys at any value within this agency. Little use of Part 13 simplified pricing procedures were found, like last year's data in purchasing commercial items. However, with all of these differences, the results are very much the same, such as

- Inadequate documentation
- Little use of quantitative skills learned in pricing classes
- Unreliable IGCEs
- Infrequent requests for offeror data when needed

This year, the authors added emphasis on auditing previous prices as a price justification and particularly if they were sole source. In many of the contract files reviewed, the authors found that contract specialists were using previous prices that were not reasonable and continuously perpetuating the same unreasonable price for justification on other proposed price. The authors also prodded further into the documentation that used current offered prices as the price justification. The authors found that contracting personnel were not verifying low prices that were considerably less than the next offered price. It would have been interesting to find out if the contractor in those cases actually delivered at such low prices. In reviewing what type of price justifications are used in supplies versus services, the authors found few differences. Essentially, in cases other than current offered prices, IGCEs were the most used for justifying a price for services and published price lists/market research for supplies. One significant improvement in our current research was the access to real paper files. In 2014, the current authors had only access to electronic files. It was hard to retrieve and review files if they were not well filed. Having paper files to review allowed the authors to now look more closely at the documentation, and it was much easier to find documentation misfiled or misnamed.

The authors' recommendations are not very different. They are similar issues, same suggestions. The authors would like to conduct a comprehensive exploration of market research reports. The authors think there may be a link to why so many IGCEs are unreliable.

Inaccuracies in pricing memorandums can result in increased procurement costs, sustained protests, and loss of agency contracting authority, and the authors conclude that those inaccuracies continue to occur at most, if not all, DoD agencies. The big question is, can we remove the reasons for these inaccuracies?

Personnel Survey Data

In comparing the current research surveys to last year's report, one would think this is the same personnel who submitted their responses. The majority of the personnel have more than five years of experience in supplies or services. There are few responses from personnel with three or fewer years' experience. The majority were qualified at Level II. Very



few were at Level III. Most had taken Level I and II contract pricing courses. “Time to complete” and “inadequate skill level” were still the challenge in executing price analysis according to the nonsupervisory personnel. In both years, supervisors pointed to skill level as an issue. In comparing the file data and survey data, personnel responded that they use quantitative methods often, but the authors did not find any real use of quantitative methods in the contract file pricing documentation.

The authors’ added new questions to the survey that directly asked the survey participant to rate the effectiveness of DAU contract pricing classes. The majority said they were effective. However, all the written comments by the surveyed participants supported that price analysis is underemphasized in the DAU courses. In potential future research efforts, the researchers will consider scaling down the personnel survey questions and focus on the areas of price analysis where the authors historically found inadequate documentation, and explore survey participants’ opinions on why the use of IGCEs are more prevalent in service versus supply purchases.

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